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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,967	07/11/2007	Kazumi Nakayoshi	DC10031PCT (71,051-070)	2691
27305 7590 05/10/2010 HOWARD & HOWARD ATTORNEYS PLLC 450 West Fourth Street Royal Oak, MI 48067			EXAMINER LAM, CATHY FONG FONG	
			ART UNIT 1784	PAPER NUMBER
			MAIL DATE 05/10/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/598,967	<b>Applicant(s)</b> NAKAYOSHI ET AL.	
	<b>Examiner</b> Cathy Lam	<b>Art Unit</b> 1784	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,7 and 9-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7 and 9-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 22, 2010 has been entered.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-5, 7, 9-12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Wolter et al (US 5116472).

Wolter teaches a process of making a substrate for printed circuit boards. The substrate is comprised of a metal layer and an electrical insulating material (col 1 L 6-10). A metallic conductor track is then printed onto the insulating material surface (col 1 L 14-15).

The metal layer which can be an aluminum layer, is coated with a silicon compound A (col 2 L 33-34 & 37-40). The silicon compound A is a commercially available compound which is mainly a crosslinkable organic silane compound (col 3 L

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36-65 & col 4 L 1-15). The silicon compound A is resin compound that ranges from colorless to bright yellow. In Examples 1 and 2, the silicon compound A insulating material is a colorless layer (col 11 L 7-9 and L 31-32; col 12 L 15).

The prior art teaches a silicon compound which can be crosslinked and formed into layer. The prior art also teaches the method of making the crosslinkable silicon compound, is a condensation or UV radiation (col 5 L 53-60 & col 6 L 48-53).

With the same materials and same method of making, it would inherently possess the same properties, in this case the light transmission percentage and the dielectric constant.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolter et al (US 5116472) in view of Hamakawa et al (US 4612409).

Wolter discloses a silicon compound coated aluminum foil for used as a printed wiring board substrate. A metallic conductor trace track is printed onto the silicon compound. The crosslinked silicone compound is a colorless layer. Wolter however is silent about the thickness of the crosslinkable polysilane compound

Hamakawa teaches a flexible photovoltaic device comprised of a substrate (1) and an electrode (2) (Fig. 1).

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The electrode (2) is formed onto the surface of the substrate (1). The substrate is comprised of a metal layer (1a) and a polymeric layer (1b), the metallic layer (1a) can be an aluminum foil and the polymeric layer (1b) can be a silicone (col 3 L 6-7 & L 19-24). The polymer layer (1b) (or silicone) has a thickness of from 1-20  $\mu\text{m}$  (col 3 L 26-28).

In view of the prior art teachings, one skill in the art would choose an insulating silicone material with a desired thickness because it is a matter of design scheme.

### ***Response to Arguments***

5. Applicant's arguments filed on March 22, 2010 have been fully considered but they are not persuasive.

Applicant repeated argued the prior art silicon compound does not has the light transmission as claimed and it is not a transparent layer.

Wolter teaches a silicon compound and a method of making such. The method involves condensation or UV irradiation for the crosslinking step (col 6 L 48-53 & col 5 L 16-30). The method disclosed by Wolter is clearly disclosed and intended by applicant as well, see paragraph [0012]. Thus, the art rejection based on inherency was properly made.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cathy Lam/  
Primary Examiner, Art Unit 1784